N. Arwood.

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A Magazine of Western Ornithology

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A Magazine of Western Ornithology

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TWENTY-FIVE MINUTES IN THE LIFE OF A *SELASPHORUS* HUMMINGBIRD

WITH ONE ILLUSTRATION

By TRACY I. STORER

Each spring and autumn, as the tide of *Selasphorus* hummingbirds sweeps up and down over central California, there is an impressive display of activity as individuals or aggregations of this group visit gardens, cultivated or wild, before going northward to their nesting areas or southward to their wintering places. During late spring or early summer, when nesting is in progress, the birds are scattered out, and less is to be seen of them. But before and after this annual event, numbers may be assembled in favorable locations and a brilliant and dashing display ensues. In the springtime, the males are performing their distinctive nuptial "swings", but in late summer when sexual ardor has subsided, males and females, old and young, engage in active contest for favored feeding places. A garden full of late summer blooming flowers is likely to attract anywhere from two to a dozen of the birds.

Birds, as a group, and particularly the "higher groups" of land birds, manifest a high rate of activity; like ourselves, they are delicately adjusted physico-chemical entities. Their higher body temperatures are probably related to planes of nutrition and activity above those of the somewhat "cooler" bodied mammals. This generally greater degree of activity, combined with the relatively uniform marking of most members of a species, increases the difficulties of the observer who desires to follow the activities of particular individuals. Chronicling the activities of an individual bird is difficult save under favorable circumstances. An instance of the latter character furnishes the material of the present paper.

Late in July, 1924, I was enjoying the genial hospitality of the H. E. Wilders at their home near Carlotta, in the valley of the Van Duzen River, in Humboldt County, California. A small clearing at the margin of the redwood forest is occupied by the house and the flower and fruit garden. A host of annuals and perennials was in bloom, including a number of large Fuchsia bushes, and these had attracted a number of *Selasphorus* hummingbirds.

Birds of this group ordinarily cannot be identified, out of hand, farther than to the genus. At Carlotta, the presumption would lie in favor of a majority of *rufus*, since this locality is toward the northern end of the known breeding range of *alleni*. Of the birds watched, one adult male, with full reddish back, was certainly *rufus*, but the others, which included some females and young, might have been of either or both species, since the southbound movement of *rufus* from north of California is known to be in progress at the end of July.

There were, I think, on July 28, at least five *Selasphorus* with headquarters in this garden. At least three of these had definite forage ranges or "territories". Whether the other two had regular territories of less favorable character, or whether they, and possibly others, were persistent "poachers" repeatedly endeavoring to encroach upon the domains of the more fortunately located individuals, I could not decide. Each of the three "owners" had a home range, or, better, a forage range, and each could apparently forage within his or her respective range without being molested by the others of the trio. But there was almost constant invasion by, and repulsion of, outsiders. In the Selasphorine world, as in the world of human affairs, the favorable hunting grounds of some owners proved an irresistible temptation to others less fortunately provided. There were many pursuits; the population was ever in a condition of unstable equilibrium. Sometimes the "invader" departed at the first movement of the "owner"; on other occasions he would be literally "run out of the country" by being chased fifty yards or so across a clearing to the border of the forest. Exceptionally, the owner and invader grappled with one another, apparently bill to bill, and tumbled through the air until close to earth before separating. Once I saw a "poacher" sneak into the lower dense foliage of a Fuchsia which "belonged" to another hummingbird; it remained there for some seconds, sipping rather quietly from blossoms until discovered and driven out by the "owner".

When foraging in one of the pendant flowers, a hummingbird would poise beneath and turn its bill directly upward, maintaining its position by fanning out the tail and then tilting it up or down as necessary so that the resultant action, with the continuously beating wings, was to keep the bird where it could reach easily for its food. Occasionally one of the birds when perched in a Fuchsia bush would reach its bill over to a conveniently adjacent flower and feed.

The hummers were active throughout the daylight hours, and this meant more than a 12-hour day. Feeding, chasing off invaders, and, between these, brief periods of rest, filled the day in unending program; seldom was there quiet for so long as a minute. Even when perched, a bird often turned its head this way and that to keep watch on competitors. Several times I noticed that a bird which had been in vigorous action when it came to perch, seemed to be panting heavily as a result of its strenuous activity.

I chose for study the hummingbird with what seemed to me to be the most favorable forage area, and that happened to be the bird which also could be most easily observed at its various activities. With watch and pencil in hand, I endeavored to make a record of its activities for a brief period. I cannot say positively that at all times I was seeing the same bird, since there was no certain mark for repeated identification; yet I have no reason to doubt that I was following one particular individual. With each change of activity I recorded the time and nature of the activity and, when the bird came to rest, the perch occupied. For convenience of examination I have brought the record into a graphic presentation. Disconnected observations on this bird, before and afterward, and subsequently, elsewhere, on others of the genus, indicate that the schedule here recorded is a fair sample of late summer activity.

The diagram of the garden indicates only the principal objects. The individual hummingbird under discussion controlled the territory to the right of the figure. Its foraging was practically all done in Fuchsia "b" which was also the site of its perch "no. 1". For perch no. 2 it occupied several places on the row of Dahlias, where it faced toward the forage bush. Perch no. 3 on a bush in the shade of a tree, was evidently not a regular station; perch no. 4 was on some part of a wire, which was about 20 feet from the Fuchsia. Fuchsia "a" was presided

over by a second hummingbird which perched at times in the prune tree. Other hummingbirds inhabited the other Fuchsias shown. At "x" between the two Fuchsias "a" and "b" was a "no-man's land" which if entered by one would be contested by the other. But the proprietors of Fuchsias "a" and "b" did not attack one another when each was in his or her proper forage bush.

The activity record indicates the frequency and duration of periods given to chasing invaders, resting and foraging. In the 25 minutes of activity recorded, there were 27 chases, lasting from 2 to 25 seconds each (average 10 seconds each),

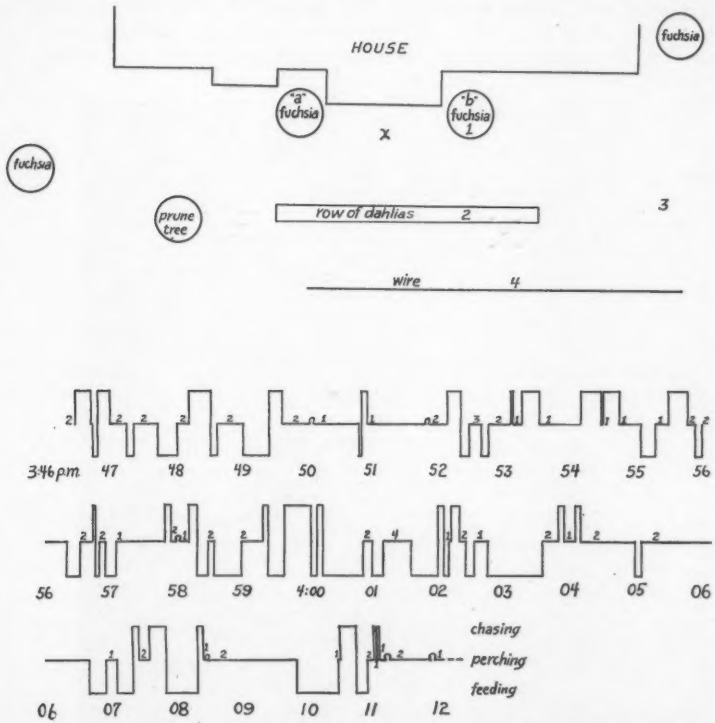

Fig. 60. ABOVE, THE FORAGE AREAS OF THE HUMMINGBIRDS; BELOW, THE ACTIVITY RECORD OF A SINGLE *Selasphorus*. TIME IS INDICATED IN MINUTES. THE CENTRAL LINE (WITH THE PERCH NUMBERS INDICATED) REPRESENTS TIME SPENT ON A PERCH, THE UPPER LEVEL INDICATES TIME SPENT IN CHASING RIVALS, THE LOWER LEVEL RECORDS TIME SPENT IN FEEDING. CHANGES OF PERCH ARE INDICATED BY A SMALL LOOP.

29 feedings, of from 2 to 50 seconds duration (average 14.4 seconds each), and 38 times when the bird was perched. On one or more occasions the hummingbird scarcely alighted before it took off again; the longest rest was of one minute and 35 seconds duration; the average rest was for 20 seconds. A total of 269 seconds was devoted to repelling invasion, 420 to feeding, and 782 seconds to perching.

Davis, California, April 7, 1930.

THE RAVENS OF THE STATE OF WASHINGTON

WITH NINE ILLUSTRATIONS

By J. HOOPER BOWLES and F. R. DECKER

In the state of Washington the ravens may be said to be fairly well represented, although their distribution for the most part is decidedly local. They are to be found in three very distinct zones, namely, the ocean coast, the mountains, and the sage-brush desert country east of the Cascade Range. Their precise racial features are somewhat varied. Specimens from the east side are typical *Corvus corax sinuatus,* while those from the coast show a slight tendency toward the northern form, *principalis,* but may more safely be classed as *sinuatus.* These

Fig. 61. A CLIFF NEST OF AMERICAN RAVEN IN EASTERN WASHINGTON.

identifications have been kindly determined for us by Dr. J. Grinnell. Owing to their comparative rarity and extreme shyness we have never had an opportunity to obtain any specimens from the mountains, which stand midway between the two districts mentioned, so that in the case of the mountain birds there is some uncertainty, although there seems little reason for any difference existing. It is, of

course, to be understood that the birds breed and are resident in all three localities, very seldom straying to any great distance. This characteristic is so strongly marked that we have only one record for a bird in the country lying between the mountains and the coast. We wish here to express our thanks to Mr. E. A. Kitchin, of Tacoma, Washington, for the use of specimens of the coast birds, which he collected at Westport, Gray's Harbor County, Washington. The east-side birds were personally collected by the writers of this article. None of them even closely approaches the heavy beaked birds that we have from Alaska, and which may be called typical *principalis*.

Little is known about the nesting habits of the ravens in this state until we come to the sage-brush country of the east side; but there we have been so fortunate as to have had almost unlimited opportunities to find their nests, taking into con-

Fig. 62. NEST OF AMERICAN RAVEN ON OIL DERRICK AT POSITION INDICATED.

sideration time and distance to be travelled. The bird student would be almost helpless without the aid of an automobile, for the nesting sites are often very widely separated, so that the work is by no means either an easy or an inexpensive one.

The sage-brush breeding range may be divided into two distinct areas; first, the territory where outcroppings of rock ranging up to cliffs several hundred feet in height are the favorite nesting sites. Here the nest is occasionally built in a "pothole" in the cliff, but far more often on a ledge projecting from the rocky wall. This section of the country is in most parts liberally watered by the Columbia and Yakima rivers, and various ponds, lakes, and marshy tracts.

The other area of their breeding range is so utterly different that, even after several years study of the conditions, it still seems to us "the stuff that dreams are made of". We refer to a flat table-like country, many square miles in area, that is known as "The Horse Heaven", named many years ago by the Indians because of the abundance of bunchgrass upon which they fattened their horses when feed was scarce in the low country. The Horse Heaven rises abruptly between the Yakima and the Columbia rivers, standing some three hundred feet above the surrounding country. It is practically waterless, with no cliffs or trees, excepting a few scrubby examples that have been planted by ranchers. Practically the only natural vegetation consists of sage-brush, tumble-weed, and the famous bunch-

Fig. 63. NEST SITE OF AMERICAN RAVEN ON PLATFORM OF WINDMILL AT ABANDONED RANCH.

grass. Many years ago the land was exceedingly fertile, with the result that thousands of acres were planted to wheat, which supported large and flourishing ranches. However, climatic conditions changed for the worse and a very large number of the ranches were given up, the houses and schools deserted, and the wheat fields reverting to their former natural conditions. A considerable number of cattle were left behind, many of which die every winter. There are innumerable jack rabbits, ground squirrels, mice, horned toads, and insects, not to mention much small bird life, all of which forms an almost unlimited food supply of the very kind most desired by the ravens. Consequently, with their customary wisdom, they evidently

decided that here was an opportunity that was not to be neglected, and a number of pairs have made the locality their home the year around.

As their natural nesting sites are entirely lacking, the ravens here had to turn to what had been left behind by mankind, and, with all the wisdom that has been accorded these birds by history and fable, they at once adapted themselves to the conditions that surrounded them. In travelling over many miles of this country we have seen the following varieties of nesting sites: Several different parts of windmills; rafters in small one-room shacks; in barns; in various places in houses;

Fig. 64. NEST SITE OF AMERICAN RAVEN ON A DESERTED HOUSE IN EASTERN WASHINGTON.

one a few feet up in a small tree; and one on top of a bookcase in a school house. This last lent an amusing significance to them as birds of wisdom. Only one nest was built on the outside of a house, this being placed on a porch directly above a small bay window. So it seems that most of the birds figured out almost at once that the protection afforded inside was greatly to be preferred to outside sites.

In this connection Mr. C. E. McBee, who lives in that section and has made a close study of the ravens there, has been successful in some most interesting experiments with them. One great trouble for the ravens seemed to him to be that there were few suitable locations in most of the houses for placing the nests. Consequently, he put boards across the rafters in several of the deserted dwellings, the

result being that the birds built their nests on these boards in a gratifying number of cases. Indeed, the ravens have adapted themselves to more different types of nesting sites than any other bird of our acquaintance. In the low, river country, where natural sites are scarce, we have found the nests on high tension poles, oil derricks, telegraph poles, and on the beam of a railroad bridge. One of the last mentioned was only twelve feet from the ground and two feet below the rails on a small bridge of the Northern Pacific Railroad. As we drove up toward this nest a freight train of some fifty cars was rumbling over the bridge, making all the disturbance that is possible only to a freight train. It did not seem possible that the bird could sit through it, but, after it had passed, we drove up and there was the raven sitting as quietly as if nothing had happened. A careful examination of the six eggs showed that all were fertile, in spite of the great vibration.

Another interesting proof that these birds do not mind disturbance in and around the nest was where a windmill had been used as a site. For some strange

Fig. 65. THE NEST OF A PAIR OF RAVENS WAS SITUATED ON A RAFTER INSIDE THIS OLD HOUSE AT THE POSITION INDICATED.

reason the nest had been built around the plunging rod, which, the mill being in working order, went up and down through the outer wall of the nest whenever the wind happened to be blowing. It did not seem to disturb the bird in the least, as the seven eggs that the nest contained were all well incubated. The only nest we have seen in a tree in this section of the country was found by Mr. McBee a few feet from the ground in a scrubby little tree that grew in the front yard of a long abandoned ranch house. This seems rather odd, as there are hundreds of large trees along the river bottoms that would seem admirably adapted to the purpose. In fact, these trees are the regular nesting sites of crows and some of the larger hawks. However, for some reason best known to themselves, the ravens scrupulously avoid the wooded regions along the rivers.

The nest, as a rule, is just about the same size and cubical contents as a bushel basket. The material used is almost literally anything that strikes the fancy of the birds, although the common types are composed outwardly of coarse sticks and twigs for the most part. However, we have several times found them built almost altogether of different kinds of wire, while at other times the ribs of sheep and the smaller bones of cattle form a large percentage. One nest contained a large jawbone, with most of the teeth intact, and the wonder is how the bird

managed to carry it. The cup for the eggs is a thick-walled mass of wool, hair, and the soft bark of the sage-brush and greasewood, with any additional soft item that the fancy of the birds may dictate.

As a rule the female does most of the work, but the male usually follows a short distance behind her. A curious feature of their nest building is that they never pick up a piece of material that has fallen from the nest, even though they may have to fly for miles to get more. A truly astonishing instance of this was found in a little shack about ten feet high and fifteen feet square. The nest was built on an irregularly shaped board that was placed on the rafters about seven feet above the floor. It is hard to say just how many attempts had been made to build a nest, but, owing to the shape of the board, all of them had fallen to the floor during the process of construction until finally the last attempt was a success. As a result the floor beneath the nest was one great mass of almost every imaginable

Fig. 66. NEST OF AMERICAN RAVEN ON RAILROAD TRESTLE. BENEATH THE NEST, C. E. MCBEE AT LEFT, F. R. DECKER AT RIGHT.

sort of material that could be found for miles around, there being included dozens upon dozens of bones of many kinds. In all we estimated that there must have been between twelve and fifteen bushels of material, showing how pertinaceous these birds are when they have once decided upon a site for their nest. This nest contained seven eggs, proving that the long delay in finally completing the structure had not interfered with a fine large set.

Nest building frequently begins early in March, and full sets are not infrequent by the latter part of that month, but some seasons show them to be considerably later as a whole. The first week of April is, perhaps, the best average date. Should their first set of eggs be taken another is laid, usually in the same nest; and in some

cases three sets have been laid in the same nest, with intervals of from seventeen to twenty-two days between sets. Sometimes the same number of eggs is produced in each set, but often the second and third sets will contain one egg less than the first. We have found that one egg is deposited daily until the set is complete.

It is fairly safe to say that everybody knows the variety of coloration exhibited in the eggs of the crow. Perhaps the best description of a series of raven eggs would be to say that they precisely resemble a series of eggs of the smaller bird, exhibiting the same variety of greens in the ground color, as well as the same variation in markings. They are also subject to exactly the same variation in shape; but the size is of course larger, although frequently not as much larger as one might

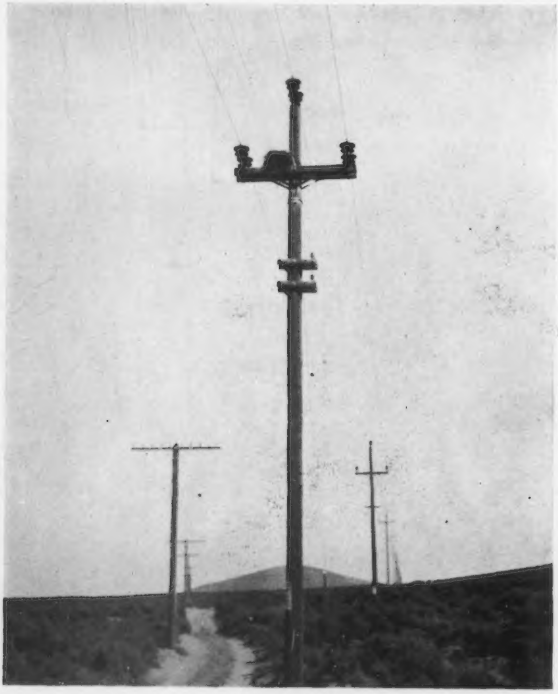

Fig. 67. NEST OF AMERICAN RAVEN ON HIGH-TENSION POLE IN EASTERN WASHINGTON.

expect from the size of the birds. Normal eggs vary in size from 1.90 x 1.23 to 2.01 x 1.35 inches. In fact the eggs seem decidedly small for so large a bird.

In their behavior around the nest ravens are, like most of the Corvidae, exceedingly silent unless the nest be disturbed. They are as a rule very secretive also, except when the nest is built in a house, in which case the male bird is fond of perching on the ridgepole of the building. Even when the bird is not there himself, his tell-tale droppings on the roof betray the secret of the nest inside. When hunting for nests that are built in houses we usually drive in the automobile from house to house and blow the horn. If there is a full set of eggs, the

female always responds to the signal by flying out of some window. One nest that we found was built on the top of a bookcase close to the door in an abandoned school house, but still the bird preferred a window as a means of exit. After the nest has been found and is being examined the birds are usually wild; indeed they seldom allow close approach to the nest before leaving it. The loud croaking of the female generally brings the male to the scene, when both birds fly about overhead, giving voice to their displeasure by a most singular variety of calls, as well as by doing feats of tumbling in midair that would put to shame the far-famed tumbler pigeon.

As might be expected, occasionally one pair of ravens will be found that acts quite differently from most of the others. Such a pair coming to our notice

Fig 68. RAVEN'S NEST ON BOOKCASE IN ABANDONED SCHOOL-HOUSE IN EASTERN WASHINGTON.

had its nest about forty feet from the ground on the ledge of a cliff. The female did not flush until we were directly under the nest, and, as usual, her croaking soon brought the male. After the usual demonstration of tumbling, both birds came and perched on the cliff only some fifty feet away, where they gave the most impressive series of calls we had yet heard. They gave an endless variety of creaks and croaks, quacked very much like a Mallard duck, bawled like a cat, and,

in short, made it exceedingly easy to believe that there would be little difficulty in teaching them to talk quite as well as the famous birds of Edgar Allen Poe and Charles Dickens. Individual birds are undoubtedly much more gifted than the general run, as far as their vocabulary is concerned, this having been demonstrated to us in numerous instances; the trait of mimicry is probably more fully developed in some than in others.

The raven's bill of fare is almost endless, consisting of the flesh of animals more or less decayed, small mammals, young birds in or out of their nests, insects in both the mature and larval stages, green vegetation, berries, and the eggs of all birds excepting those of the Prairie Falcon. The exception made in the case of this last mentioned species is a never failing surprise to us and we have never seen it broken. The two species frequently nest close together in the same cliff, the falcon often using the last year's nest of a pair of ravens, thus forcing the latter to build a new nest for their own use. If the eggs of both falcon and raven are taken they will often trade nests for their second layings, but the rule

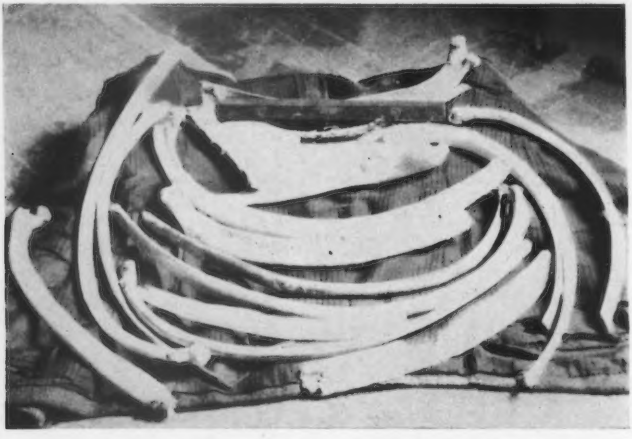

Fig. 69. SAMPLES OF MATERIAL COMPOSING A RAVEN'S NEST IN EASTERN WASHINGTON.

of "hands off" (beaks off, is more appropriate) is always strictly observed, much as the patience of both pairs of birds must be tried. The falcons, on their part, never bother the ravens, even though they will pitch fiercely at the Horned Owls and large hawks that are also often found nesting in the same line of cliffs. Incidentally, these last two forms have to keep a sharp lookout on their eggs, otherwise the ravens will surely eat them.

Besides the Prairie Falcon using them, we have found old raven nests used at times by the Ferruginous Rough-leg, and often by the Horned Owls. In the case of the falcons it is interesting to note that their presence in a locality during the breeding season frequently depends entirely upon their finding an old nest of the raven for their use. This we have proved many times.

As to the ravens being beneficial or injurious, the case depends entirely upon the conditions surrounding them. In the vicinity of a breeding area of water birds, there is hardly a question but that they are exceedingly injurious, owing to the

great number of eggs that they devour, not to mention young birds. However, the great majority of them live far away from such conditions and live almost altogether upon carrion, insects, small mammals, lizards, etc. Consequently we believe that we are safe in saying that ravens should be protected, excepting where they are an actual menace to breeding waterfowl. We have never known them to bother land birds to any appreciable extent.

Tacoma, Washington, March 10, 1930.

BREEDING OF THE AMERICAN WHITE PELICAN ON THE TEXAS COAST

WITH THREE ILLUSTRATIONS

By J. J. CARROLL

It has been known to me for perhaps twenty years, certainly long before I saw anything of it in print, that the American White Pelican (*Pelecanus erythrorhynchos*) occasionally bred on the Gulf coast of Texas. It was not until the spring of 1927, however, that I found it convenient to make any personal observation of these birds at their nesting grounds.

Since the resumption of my ornithological studies in 1926, I have made annual visits to the well known Bird Island, lying in Laguna Madre, some thirty or thirty-five miles below the town of Corpus Christi. June 17 of that year was spent there and no White Pelicans were seen among the thousands of other sea-birds then nesting. My visit was made earlier the following year, May 14, 1927, and as we neared the island I was no little excited to see seventy-five or one hundred huge white birds, flying high over the island, circling gracefully in the well known White Pelican fashion. The boatman's inclination was to discourage me, explaining that he often saw numbers of the birds there in spring and summer, but that they were non-breeders. But this time he was wrong. In the cactus near the center of the island we found five nests, each containing one egg, and a large number

Fig. 70. A BREEDING COLONY OF AMERICAN WHITE PELICANS ON THE GULF COAST OF TEXAS.

of other nests apparently ready for eggs. The nests were merely small mounds of shell and sand, depressed in the center, with very little lining. The birds were extremely shy, finally settling on the water at a distance of perhaps one hundred and fifty yards from the shore-line, where they swam along in perfect order. Truly a magnificent picture they made.

My pilgrimage to the island the next year (1928) was made on exactly the same day of the same month as in the preceding year, May 14. The birds were then present in increased numbers. Certainly there were no less than one hundred

and fifty nests and I am inclined to think there were nearer two hundred, dispersed over a considerable area among the prickly pear cactus. The birds were grouped along the shore-line and took flight at our approach, settling on the water in close formation as before. Not one bird was found near the nests and we discovered that the entire rookery had been abandoned. Eggs were lying around everywhere, in and out of nests. They were all perfectly cold. I examined a few and found that they contained embryos perhaps one week old. I have never been able to reach any conclusion as to why the nests were deserted. The boatman had been on the island a few days before and the birds were at the nests. Two nights prior to our coming, that vicinity had been visited by a considerable wind and rain storm. I would think this might account for it except that the hundreds of Brown Pelicans were at their nests as usual, as were the thousands of gulls and terns. The nests

Fig. 71. NESTS AND EGGS OF AMERICAN WHITE PELICAN ON THE GULF COAST OF TEXAS.

contained from one to three eggs, very few of the latter number. Some of the nests were well constructed—a mound of sand and shell ten or twelve inches high, hollowed on top, with only a small percentage of vegetable matter entering into the composition.

My trip in 1929 was made on June 9. There were only fifteen or twenty nests, all containing young of varying size, the first young White Pelicans I had ever seen. They were inclined to gravitate into groups when the old birds left them, after the fashion of young Brown Pelicans. The nests were situated in the outer edge of a large colony of Brown Pelicans. The birds were not nearly so shy as they had been on former occasions. The old nesting site had been abandoned.

This island, I should add, is usually referred to as Bird Island or Big Bird Island. The proper name for it according to the U. S. Geodetic Survey chart is South Bird Island. The "south" is to differentiate it from a smaller island four or five miles north in Laguna Madre designated on the chart as North Bird Island. It is commonly called Little Bird Island. In former years a good many

sea birds bred there; but the tide had fallen unusually low one summer and marauding coyotes from nearby Padre Island had waded and swam over and wrought havoc among the young birds. Apparently this calamity had been forgotten by the spring of 1929, however, for there I found several nesting colonies including what I believe to be the greatest assemblage of breeding White Pelicans ever seen on the Texas coast. There were several hundred nests in all, distributed in three central nesting areas and several small outlying groups. Nearly all of the nests contained one or two eggs. Many were apparently fresh, although no careful examination was made of the eggs. A few nests contained newly hatched chicks—naked, helpless and disgustingly ugly. As the boat neared the island the birds seemed reluctant to fly; as a matter of fact they were much less timid than I had ever seen them before. Some fairly good pictures were made without the aid of a blind. One rarely sees a more imposing ornithological spectacle than a large company of these huge birds going through their maneuvers. Flushed from

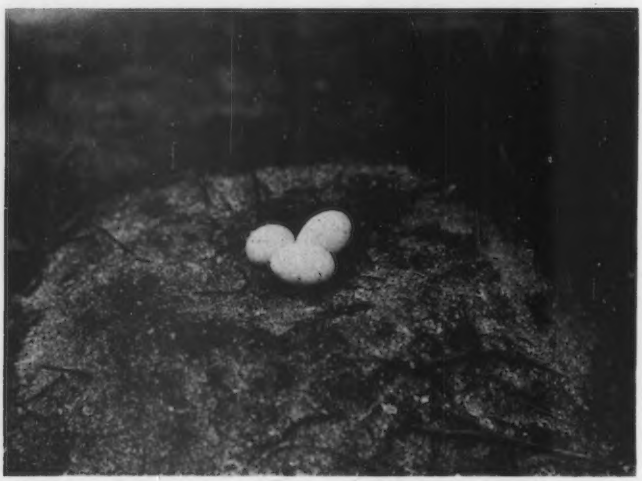

Fig. 72. AN UNUSUALLY HIGH NEST MOUND OF AMERICAN WHITE PELICAN IN A COLONY ON THE GULF COAST OF TEXAS.

their nests at the south end of the island, they proceeded northward for some distance, then wheeled in perfect order, barring a few stragglers, and swept by us, the sound of their powerful pinions beating against the wind rivaling that made by a mild gale. They settled on the water at the south end of the island, but as soon as we moved northward to make observations in that direction they quickly returned to their nests.

It is an interesting thing to find nesting birds so far removed from their usual breeding grounds and, moreover, to find them there consistently year after year. This instance is not unlike that of the northward movement of the Fulvous Tree Duck in Texas, having nearly forsaken their old haunts in the Rio Grande Valley and breeding regularly now not a great distance west of Houston, where fifteen or twenty years ago they were practically unknown.

Houston, Texas, March 15, 1930.

THE SPECIALIZED FEATHERS OF THE SAGE HEN

WITH ONE ILLUSTRATION

By ALLAN BROOKS

The curious bristly feathers on the breast of the male Sage Hen, *Centrocercus urophasianus*, have for long excited my curiosity and interest, together with a strong doubt that the worn appearance of these feathers was actually the result of strenuous wear. If other observers have had a similar doubt, I have come across no published evidence of it. Only very recently in the Canadian Field Naturalist for December, 1929, Mr. F. Bradshaw has quoted Bond's account of the nuptial display of this grouse as being the cause of the "worn" breast feathers. Dawson in the "Birds of California" also gave credence to the act which he described as "taking a belly-buster."

On the other hand, Captain Bendire and Mr. L. E. Burnett have both described the nuptial display and emphasize that the bird blows himself out in a very erect position, and Finley's excellent photographs confirm this.

In the autumn of 1926 I was able to put into execution my long-desired plan to take birds in absolutely fresh plumage and settle the question definitely. The only region in Canada where the Sage Hen now exists is the valley of Frenchman's River, in extreme southern Saskatchewan. Through the courtesy of Mr. Bradshaw, then Chief Game Warden of that Province, I obtained a permit to take six specimens; also he placed at my disposal all the information he was able to supply as to where they might be found. My main object was to take male birds before they had completed their molt so as absolutely to verify the condition of the new breast feathers.

On September 27 I arrived at Mr. Harry Otterson's ranch on Frenchman's River; and I must here express my gratitude to Mr. Otterson, both for his hospitality and for much information bearing on the bird I was in quest of. Frenchman's River, sometimes called the White-mud, at that time of the year a small and easily fordable stream, winds its sinuous course through a valley of moderate width, the floor of which is overgrown in many places with a rank growth of sage-brush, in others with a dense growth of willow and cottonwood of small size, with a good deal of underbrush and also stretches of grass-land.

The Sage Hens are not found in the high sage-brush of these bottoms but on the first benches where, in places, a scantier and lower growth of sage occurs. Nor were they ever seen on the higher prairie levels even where there was sage. I found the birds fairly easily on the morning of the 28th, but they were obviously scarce and only one covey of young birds was seen besides a number of males. They were not at all wild nor was the roar of their wings on rising at all as described by so many writers; in fact they seemed to me to rise more quietly than any other species of grouse that I have met, which means all of the American grouse and some of the Old World species.

I did not take my full quota of six birds, being satisfied when four had been shot. These I picked out as an old male, a young male, an old female and a young female. On dissection these proved to be a two-year-old male, two old females and a young female of the year. Later, other males were flushed, including two fine old birds; these were followed up and studied and sketched at close range of a few yards. No importance is attached to observations made on such short acquaintance, but the following records of physical characters are of interest.

1. *Character of breast feathers supposed to owe their abraded appearance to wear in the sexual display.* These feathers in the two-year-old male are absolutely new, most of them have their bases in a pink sheath, yet the shape and character of the feathers is exactly as in a male of similar age in extremely worn plumage taken in Mono County, California, August 8. The accompanying illustration is a photograph of three feathers taken from corresponding parts of the neck and breast of these two birds. The only appreciable difference is that the feathers of the worn-plumaged birds are tipped with the gummy residue from the sage leaves.

So the long-accepted theory to account for the extraordinary character of these feathers must be set aside. The feathers of the breast and neck of the male sage grouse are specialized feathers only.

2. *Inflatable gular sacs.* These in other American grouse, *Dendragapus, Pedioecetes* and *Cupido,* consist of a thickening of the skin of the apterium on each side of the neck and are confined to adult males only. In *Centrocercus* the bare spaces are in front of the apteria and completely surrounded by the feathering of the breast and neck. In the relaxed condition of an autumn bird they present the appearance of an oval-shaped bare spot. In the two-year-old male this bare space measures 45 mm. by 25 mm., in color dark olive gray, the skin thickened and covered with a plexus of veins beneath a tough integument. (According to all observers this

Fig. 73. FEATHERS FROM SAGE HEN, *Centrocercus urophasianus*: AT LEFT, FROM NECK OF NEWLY MOLTED BIRD; AT RIGHT, FROM SAME POSITION ON BIRD OF THE SAME AGE IN VERY MUCH WORN PLUMAGE. THESE LATTER ARE THE STIFF, BRISTLY FEATHERS FROM SIDE OF NECK; COMPARE WITH THE BLUNT-ENDED NEW FEATHERS.

skin is of a yellow color in the breeding season.) In the female the naked spaces are 25 by 13 mm., the formation in every way similar to that of the male but the thickened skin not so specialized. In the juvenile female the naked spaces are smaller but quite distinct.

3. *Head.* The anatomy of this is distinct from other grouse: The eye is larger in proportion, the skull very strong, in the male the frontals rise abruptly from the bill to a considerable height, quite different from the gradual rise in all other grouse. Brain-case small, its walls thick and cellular. Nostrils embedded in the center of the dense nasal fossae and can be completely closed by these, giving an ample protection in cold weather.

4. *Heart.* Very large as in all dark-meated birds, in the male measuring 50 by 41 mm., in the female, 42 by 31 mm. These grouse are heavily charged with blood, more so than in the different species of Ptarmigan even; the main arteries are of large diameter.

5. *Stomach.* A thin-walled sac, 65 mm. in diameter when moderately full of food; proventriculus small; oesophagus simple, its walls very thin; intestines of large diameter. No parasites.

6. *Food.* All four stomachs were charged exclusively with sage leaves. Close to, and in some cases growing among, the sage bushes were berry-bearing bushes of several species, notably bull-berry in full fruit; yet none had been taken.

7. *Colors of soft parts.* Iris burnt umber. Bill blackish, slate gray at the base of the high culmen. Feet olive brown, more plumbeous on soles, claws blackish. Comb over eye dull Indian yellow. Gular spaces olive gray (dark). Colors the same in both sexes.

8. *Weights.* Male, 5 lbs.; females, 2 lb. 10 oz., 2 lb. 8 oz., and 2 lb. 6 oz. All in good order. It will be noted that these weights are a long way below those given by all authors. A very old male in good order would probably weigh one pound more than the above, possibly two, but I would certainly class the weight of five pounds for a female as impossible.

Numerical status. It is obvious that the Sage Hen more than any other bird in Canada needs protection of a thoroughly practical sort. That much used term "in danger of complete extermination" has been so abused (it has been applied again and again to the commonest species of hawks and owls, the extermination of which is an utter impossibility) that I hesitate to use it; but as far as Canada is concerned the complete disappearance of this, the finest grouse in America, is only a matter of a decade or so unless special protection is provided. The species is protected at all seasons by law but many of the residents undoubtedly break this law or are ignorant of it. A proper scheme of education in the local schools, emphasizing that this is the only place in Canada where this grouse still exists, should be organized at once.

But by far the gravest menace is the increase of the Magpie. Mr. Otterson who is an old timer in the region told me that this bird was unknown when he first came to the district and that its abundance is only a matter of the last few years. The nesting grounds of the Sage Hen are in the scantiest sage-brush (see Bradshaw's recent paper in the Canadian Field Naturalist). To anyone who knows the nest hunting capacity of the Magpie the wonder is that any broods at all are raised. No protection will be of any account unless a vigorous and continued campaign of destruction is instituted against the Magpie, and Crows also should be attended to.

Conclusions. There is no question that the long-accepted theory of the abrasion of the breast feathers of the male Sage Hen is an absolute error; but much work is still required before the life history of the species can be regarded as at all complete. What are the functions of the gular sacs in the female birds? Does this grouse drink "like a cow" as old cattlemen describe? What color are the sacs in the old male when not inflated? These change color radically when inflated in *Pedioecetes* and one species of *Dendragapus.* There are obvious plumage changes in the male from the juvenile to the mature and very old birds that are not recognized in any work that I have seen. These and other problems present a good field for effort, and it is to be hoped that some young ornithologist will be allowed to work the problems out. It is our largest and most conspicuous birds that are most in need of study both in the field and from a systematic standpoint.

Okanagan Landing, B. C., January 28, 1930.

A FOSSIL GOOSE FROM THE RICARDO PLIOCENE

WITH ONE ILLUSTRATION

By LOYE MILLER

The heterogeneous group of strata in the Mohave Desert area of California known as the Rosamond series has for twenty years been the object of occasional visits by parties from the University of California. The most intensive work resulted in a general bulletin by Merriam (Univ. Calif. Publ. Bull. Dept. Geol. Sci., 11, 1919, pp. 437-585) which divided the series into an eastern, late Miocene accumulation called the Barstow Syncline, and a western, early Pliocene series called the Ricardo or Red Rock Cañon.

Since the explorations leading to Merriam's paper, various parties have used the formations for field instruction purposes and have added from time to time certain species to the faunal lists. Mammals have dominated the faunal picture thus far to the almost total exclusion of other classes of vertebrates. One tortoise and two indeterminate species of buteonid hawks were recorded by Merriam as the only non-mammalian vertebrates encountered in the Barstow. Fragmentary testudinate remains are the only non-mammalian specimens thus far recorded from the Ricardo.

A field party from the University of California at Los Angeles during the fall of 1929 collected the first avian specimen from the Ricardo, a single fragment representing a species of goose of the genus *Branta*.

Branta howardae, new species[1]

Type specimen, no. 28811, Univ. Calif. Mus. Paleo., fragment of left carpometacarpus. Lower Pliocene, Ricardo formation, California. Size medium for the genus; distal condyle of metacarpal III, a ridge with nearly parallel sides.

Previously there were known to American paleontology seven species of the genus *Branta*, only two of them occurring as early as Pliocene. Both these species, *esmeralda* Burt (Univ. Calif. Publ. Bull. Dept. Geol. Sci., 18, 1929, p. 222) and *minuscula* Wetmore (Proc. U. S. Nat. Mus., 64, 1924, p. 6), are markedly smaller than the specimen from Ricardo. In turn, the Ricardo bird is distinctly smaller than any of the extinct Pleistocene species except *propinqua* Shufeldt (Journ. Acad. Nat. Sci. Phila., ser. 2, 9, 1892, p. 389). The size corresponds very closely with that of the Recent *B. canadensis canadensis*, but it differs from this species in the angle at which the distal condyle of metacarpal III lies, and in the greater depth of the groove radial to this condyle. The condyle itself is more sharply a ridge and less a bulbous articular surface. A marked excavation appears on the dorso-ulnar surface immediately proximal to the condyle. *B. canadensis* lacks this excavation. This character approaches the condition seen in the genus *Anser*.

It is interesting to find the Pliocene geese of the genus *Branta* ranging in size from the small bird, *B. minuscula*, to a large *B. howardae*, with an intermediate *B. esmeralda*, to see the Pleistocene producing the gigantic *B. dickeyi* L. Miller (Condor, 26, 1924, p. 179) and the smaller *B. propinqua*, while in the Recent *B. canadensis* there occurs a varietal range from the pigmy *minima* to the largest true *canadensis*.

Is the Recent species not destined, if it survive, to break into distinct species?

[1] The specific designation is given in honor of Dr. Hildegarde Howard with whom it has been a pleasure to work for some years in the field of avian paleontology.

Or perhaps, and more disturbing, had we only a few scattered bones of the various Recent varieties, would we not call them all species?

Fig. 74. TYPE SPECIMEN, FRAGMENT OF LEFT CARPOMETACARPUS, OF BRANTA HOWARDAE.

The geese are birds which winter in southern California today and are at times found feeding on grassy lands some distance from the nearest open water. Merriam considers the mammal fauna, which includes grazing horses and camels, to be strongly suggestive of open grassy plains as being the Pliocene environment. The near-by presence of petrified trunks and stumps of broad-leaved trees in fairly close stand suggests a greater degree of humidity in the local climate than pertains today. During Pliocene (Fernando) the sea encroached far upon the land and the Sierra Madre mountain barrier was much less elevated than it later became. In all probability the moisture laden sea breezes had fairly free access to the Ricardo region in Pliocene time.

Some time during the Pleistocene epoch there occurred a marked uplift of the mountain barrier and also a recession of the coastline to more nearly its present place. These movements probably conspired to bring about the desert conditions that now prevail in the southern Mohave area, and the land ceased to be hospitable to grazing mammal or to equally grass-loving goose.

University of California at Los Angeles, May 5, 1930.

FROM FIELD AND STUDY

Western Robin Eating Ivy Berries.—Since reading final proof of my paper entitled "Happenings in a Robin Household" (Condor, XXXII, 1930, p. 77), before its going to press, where the finding in the robins' nest of the seeds of the English ivy (*Hedera helix*) was mentioned and their presence there was spoken of as a "mystery unsolved", the matter has been satisfactorily cleared up. In fact, several people have helped in the clearing, these being members of the Cooper Ornithological Club to whom I had told the story of the ivy seeds and who had been fortunate enough to see robins actually eating the ivy berries.

In addition to this evidence, a day or two after the appearance of the paper, Mrs. Charles S. Newhall, another Cooper Club member, kindly wrote me a letter containing a detailed account of having found ivy seeds in her yard in Berkeley, under redwood trees which robins had been frequenting, of her going to the University botanical gardens and of having there seen the Western Robin taking berries from the ivy. Mrs. Newhall went on to say that after these birds had visited the redwood trees she found evidences on the ground beneath them of regurgitation of the seeds and that a "fine crop of English ivy has come up" since then.

As stated in my paper, Mr. W. L. McAtee, Food Habits Research Expert of the U. S. Biological Survey, remarked that the robin was not known to eat berries of the English ivy. As concerns the *Eastern* Robin this may be because there is no fruit on the eastern ivy at the season when the birds would want to eat it; but in California, near the actual coast, ivy is apt to fruit at almost any time and the robins evidently turn to it when other food is scarce.—JOSEPH MAILLIARD, *California Academy of Sciences, San Francisco, March 25, 1930.*

Further Notes on the Harris Hawk.—As a more or less tropical element in our California avifauna the Harris Hawk (*Parabuteo unicinctus harrisi*) holds the interest of many Condor readers. Along with the Lucy Warbler, Elf Owl, Vermilion Flycatcher and Cooper Tanager, it makes a visit to the Yuma district especially attractive. During the nesting season the tropical effect is not limited to the avian visitors, for the desert sunshine serves nobly to complete the picture. On April 18 and 19 of this year (1930) our party paid a visit to the old locality of Pot Holes (now Laguna Dam) on the Colorado River, and the Harris Hawks there gave us a brief item or two on their feeding and nesting habits.

The birds seem to be particularly localized about the California Lakes area. On four different visits to this region they have been seen in small numbers. The old nests have been noted in the tall cottonwoods on several occasions and have always been at considerable distance from the ground, quite unlike the first nest noted in 1917 and later recorded by Leo Wiley (Condor, XIX, 1917, p. 142) which was in a mesquite tree of scrubby proportions. Whether found in summer or winter, the birds seem to frequent the immediate vicinity of these nests.

The nest found this spring was at an elevation of nearly forty feet in a cottonwood and was of typical buteonine nature. In the nest there was a single chick, probably five or six days old, blind in one eye and covered with a complete coat of down of a rich brown color approaching the shade seen on the shoulders of the adult bird. Wiley described the newly hatched young as "light buff" in color.

On the edge of the nest were two fresh bird bodies, one a Florida gallinule (*Gallinula galeata*) and the other a Sora (*Porzana carolina*). The Gallinule had been quite well plucked, most of the contour feathers and all the strong flight feathers having been removed. The hawk's talons had pierced the pelvis back of the acetabulum and the rib basket in the region of the posterior dorsals. The throat had been torn out, but otherwise nothing had been consumed. The Sora was beheaded, but otherwise was quite intact.

On a previous occasion some brief mention was made of the stomach contents of this species (Condor, XXVII, March, 1925, p. 71), the evidence being that it is an aggressively raptorial bird. Green-winged Teal and Gilded Flicker were identified in the stomachs. Add to these species the Florida Gallinule and the Sora, both secretive birds of rather dense cover, and the impression grows that the Harris

Hawk is no mean hunter. Furthermore, he plucks his kill almost as completely as does a falcon, even wrenching out the strongly attached primaries.

Mr. John Cole was a member of the party and was good enough to climb to the nest and report the contents.—LOYE MILLER, *University of California at Los Angeles, April 25, 1930.*

Valley Quail and Sharp-shinned Hawk.—Some forty Valley Quail (*Lophortyx californica californica*) frequent my garden on the outskirts of Oakland, attracted by the bird-food trays. A Sharp-shinned Hawk from the nearby hills has twice been seen to fly over the flock, and then perch in a neighboring tree. The "freezing" behavior exhibited by many of the quail under the circumstances was quite interesting.

A sudden high medley of alarm calls and whirring of wings was heard—an explosion of birds—and instant quiet—as the shadow of the Sharp-shin passed over the ground. Half the quail had reached the cover of tree, shrub, or brush-pile. But half of them had not, and these were scattered about, some alongside of a tuft of grass or other slight leafage, some wholly in the open. They were difficult to see at first glance, as they were motionless, "frozen" in a peculiar posture, half-squatting and with tail held at a high angle. They looked as if they were in readiness to spring into flight. The position of the tail was notably unusual.

The hawk did not attempt to molest them, though several seemed to be in his range of vision, of the eighteen that had come to a stop before reaching cover. They kept absolutely still for a full five minutes while the hawk remained. When he flew away, a few male quails moved their heads a little and clucked softly, but that was all for another five minutes or so. Then the birds slowly "unfroze" in a subdued, hesitating manner, the males first.—HERMAN DE FREMERY, *Oakland, California, January 23, 1930.*

A Black Rail Leaves the Salt Marsh.—On August 31, 1929, a female California Black Rail (*Creciscus jamaicensis coturniculus*) was presented in the flesh to the O'Rourke Zoological Institute of San Diego and now reposes in the collection of that organization. This specimen was picked up the day previous near the towers of the U. S. Naval Radio Station just east of San Diego. There is a small fresh-water pond nearby and a considerable growth of cat-tails in adjacent cañons. However, since this location is about six miles from the normal habitat of the black rail in the salt water marshes of the coast, it seems probable that this bird was in migration at the time of its death.—FRANK F. GANDER, *O'Rourke Zoological Institute, Balboa Park, San Diego, California, February 11, 1930.*

Bird Notes from Santa Catalina Island.—More than sixty years have passed since the Pileolated Warbler and the Brewer Blackbird were reported from Santa Catalina Island by Dr. J. G. Cooper. Since then, there appears to be no other published record of their occurrence on the island. On the morning of January 2, 1930, I saw a Pileolated Warbler (*Wilsonia pusilla pileolata*) gleaning insects from a cassia bush near the Avalon High School, and on the following morning, in the same bush, was the same or another male bird. On the second morning the possession of the bush was disputed by a Dusky Warbler which finally succeeded in driving the Pileolated away.

Brewer Blackbirds (*Euphagus cyanocephalus*) seem to be fairly common migrants during favorable years. On March 9, 1929, I saw a lone male bird on the main street of Avalon, and on April 15 of this year I saw two males and a female at Middle Ranch. Captain McKay, an old resident on Catalina Island, has told me that flocks of the birds have been seen on the island several times. On one occasion, about 1913, he said, Brewer Blackbirds were common for several weeks around a horse corral in Avalon.

Juncos of an undetermined species were seen by Harry Harris near Avalon in March, 1919 (Condor, XXI, p. 172). On March 25 of last year, I saw a flock of twenty birds near the hay-press at the upper end of Grand Cañon, and a specimen collected proved to be a female *Junco hyemalis thurberi*. This definitely establishes the Thurber Junco as an Island visitor.

A male Bullock Oriole (*Icterus bullockii*) was seen in an elder tree near Avalon on April 15, 1929. The birds have been reported from several other of the channel islands, but this seems to be the first record from Catalina. I recently learned that a cage-bird of this species escaped from the Catalina bird park about a year ago, and there is a possibility that the bird I saw was the one that had been brought to the island. It is quite possible that the native avifauna of Catalina Island will be seriously affected by introduced species within the next few years.—DON MEADOWS, *Avalon, Santa Catalina Island, California, April 20, 1930.*

Hawks Unwelcome Visitors at Banding Stations.—Six Sharp-shinned Hawks (*Accipiter velox*) and six Sparrow Hawks (*Falco sparverius*) have been trapped at our station. All but two of these have been caught in the original Michener Warbler trap with a dead bird tied to the bottom of the trap for bait, usually a bird that the hawk had killed in one of the other traps. In the case of one of these exceptions, a Sparrow Hawk went into one compartment of a four-compartment trap having Potter type doors. It was after birds in the other compartments. In the other exception, a Sparrow Hawk was in a two-compartment Potter trap set on a stand pipe with a water-drip for bait. There was no other bird in either compartment of this trap, but the hawk had killed a Gambel Sparrow in a trap on the ground about forty feet away. Our journal records another occasion on which two Sparrow Hawks were seen at this water-drip trap; but in neither case is it known that they were there because of the water, though they must drink sometime somewhere.

These hawks are quick to take advantage of the birds in the traps and usually kill one or two before they themselves can be caught or driven away, and it seldom is easy to do the latter here where shooting is not permitted. Because of their persistence in returning to the traps after the other birds, we felt it necessary to dispose of the hawks when we caught them. For a while this was done by killing them and presenting them as specimens to those persons who desired them. Of late we have adopted a scheme which suits us better. It follows a suggestion made by Mr. Roland C. Ross that we band them and release them at a distant point. The last five, all Sharp-shinned Hawks and all caught during the last six months, have been banded and given to Mr. Law who, after keeping most of them for a few days to study their feeding habits, has released them at points several miles away from this banding station.

The persistence of these hawks, particularly the Sharp-shinned, is illustrated by the following entries taken from our journal. Under date of October 14, 1929: "C9934, House Finch, male. Killed by hawk in number 4 trap at 5:30 p. m." Then on the following day, Mrs. Michener writing: "After I found C9934 dead in the trap I set the hawk trap with him in it. It was almost dark. The hawk watched me from the shed roof (about thirty feet away) while I arranged the trap, then flew to the eucalyptus tree (about one hundred feet away). After a few moments I went out and saw the hawk leaving the vicinity of the trap. Early this morning, 6:45, I went out and found that it had sprung the trap. It was there. It flew to the eucalyptus and I reset the trap. Shortly after, I went out and found it in the trap with the finch well eaten." "353086 Sharp-shinned Hawk, immature, in trap no. 12, 7:00 a. m. Mr. Law took it to release at his station."

It was only the intervention of darkness that kept this hawk away from the bird it had killed, for thirteen hours. Or did it go there in the darkness, spring the trap without getting caught and stay around there until daylight? Probably not, but we do not know. Usually the hawks are back and into the traps in a very few minutes, sometimes before the one who has set the trap is out of sight.—HAROLD MICHENER, *Pasadena, California, April 2, 1930.*

Saw-whet Owls in Oakland, California.—On November 30, 1929, a Saw-whet Owl (*Cryptoglaux acadica*) was seen near Mosswood Park in Oakland. It had been in the neighborhood for over a month, but, though heard by both Mr. Phillips Kloss and myself, had not been recognized. We continued hearing it at intervals until April 8, 1930. On the 8th of March it appeared that two owls had been in the vicinity, for two were seen that night.

The owl's identity was established on November 30, an exceptionally dark day. In the middle of the forenoon a great clatter of jays arose in my back yard. As

I went to close the kitchen door, I noticed that there were other birds too, which were behaving excitedly. I should have thought no more about it if my son had not suggested that the jays were robbing a nest, and so forced me to offer a possible substitute, namely, "owl." And owl it was. One look revealed him sitting about eight feet from the ground between two horizontal limbs of an old rose vine. Above, on the garage roof and in trees, nine or ten kinds of birds were beside themselves with excitement. The boldest of these, a Bewick Wren and an Anna Hummingbird, advanced repeatedly to within a yard of the owl, the Hummingbird buzzing directly in his face; while the shyest, a Hermit Thrush, uttered his almost unnoticed "chuck" in a tree forty feet away. To these challenges and to quick movements of his human watchers also, the owl's only response was the slow opening and shutting of the eyelids, a slight turning of the head being barely perceptible. The Jays had fled at our first approach and the other birds disappeared in a few minutes, the incident being closed from then on as far as they were concerned. The owl remained in the same position until 4:30 and was gone at 5:10.

Two owls appeared on March 8 at about 10:00 p. m. Attracted to the window by a whimpering sound, I saw in the big beech that touches the house the form of an owl. I called my father, Mr. F. T. Jencks, a bird authority of Rhode Island,

Fig. 75. A SAW-WHET OWL IN OAKLAND, CALIFORNIA—NOT AN IDEALLY CLEAR PICTURE BUT SUFFICIENT TO ESTABLISH IDENTITY.

and with a flash light we found that there were two owls. One was too distant for our light, but we could see that the nearer of the two, at fifteen feet, was very small and had no ear tufts. He was not at all shy, for he stood the light two or three minutes before making a short flight to a tree near-by. The two owls were alike, for they made the same sound.

Altogether I have heard the owl at least seven times, the last three times being on February 17, March 29, and April 8. On all occasions but one it has been toward morning, on the 29th between 5:30 and 5:40 on a foggy day, and on the 8th between 4:15 and 4:30. The usual call is a series of whistled notes, all on the same pitch, consisting of four or six slower ones that accelerate, followed by five or six rapid ones in somewhat uneven rhythm. I believe he does the call in one breath, the rapid notes being the tag end of it. On the night the two owls appeared they were making a very soft whimper, as if through a closed or nearly closed bill, and on February 12 the last call I heard sounded as if the bird had shut his mouth on it. Once on that morning I was happy to hear what some have thought imaginary, the call for which the owl was named, and which, in its succession of four or five regular ups and downs, does sound definitely like the filing of a saw.—MARSHALL JENCKS, *3416 Webster Street, Oakland, California, May 6, 1930.*

An Early Seasonal Record for the Allen Hummingbird.—On January 29, 1930, the writer observed a male Allen Hummingbird (*Selasphorus alleni*) at Azusa, California. The next earliest record for this locality was January 31, 1924. In one or two other years the characteristic sound of the bird's flight has been first heard at about this same date. These early migrants are always exceedingly active and make but a brief stay.—ROBERT S. WOODS, *Azusa, California, April 10, 1930.*

Woodpeckers and Wires.—I read with interest the note by Clinton G. Abbott (Condor, XXXI, 1929, p. 252) on the subject of woodpeckers perching on wires. He suggests that the observations of others on this score would be of value. Although I have not kept record of the dates, I can state that I have on several occasions seen California Woodpeckers (*Balanosphyra formicivora bairdi*) stand on a telephone wire in the manner Mr. Abbott describes. In fact I can report even more startling behavior than this. About half a dozen times I have seen a California Woodpecker alight on a wire and then hang head down and inspect his toes gripping the wire, with, apparently, great interest. After a minute or two, he would either right himself with the help of a couple of preliminary swings, or relax his hold and right himself in the air. My vantage point for observation was a bed in Arroyo Sanatorium in the Livermore hills.—ROBERT T. TROTTER, *Livermore, California, April 14, 1930.*

Cedar Waxwings Visit City Business District.—The thought of Cedar Waxwings (*Bombycilla cedrorum*) is usually associated with the country or the park and suburban districts of the cities. It was therefore with surprise that I met with them in the downtown district of San Francisco amid the clang of street cars and the roaring of trucks. At the corner of Ellis and Taylor streets there is a gasoline service and parking station in the corner of which there is a small plot containing about a dozen small shrubs banked against the back of a tall building. Three of these (*Cotoneaster panosa*) were sparsely in fruit and on the morning of October 14, 1929, I was startled to see about ten Cedar Waxwings feeding on these berries. I watched them about half a minute when they flew up uttering their tremulous calls and disappeared over the tall buildings.

These birds had flown a mile or more over tall buildings from whichever direction they had come, and the small spot which had attracted them was hidden among the buildings in the noisiest part of the city and contained only three small fruiting shrubs. Truly, they are living up to their reputation as the champions of wanderers! —FRANK N. BASSETT, *San Francisco, California, March 19, 1930.*

Behavior of Sea Gulls During a Hail Storm.—I was active in ornithology up to 1900. At that time I moved, took up my residence in San Francisco, and donated my collection and notes to the California Academy of Sciences; these were totally destroyed with the other collections of the Academy during the great fire following the earthquake of 1906. Since that time it has been my pleasure from time to time to study birds in the field and to note their behavior and reactions in the presence of civilization.

The following observation appears to me to be worth reporting. It happened that I had occasion to take a ferry boat to cross the bay from San Francisco on February 23. The weather was stormy, with occasional heavy showers or a steady downfall of rain. As the ferry boat left the pier, I noted an unusually large number of sea gulls along the water front. Each ferry boat had a goodly following and the air was filled with them as they circled about the boat. When about a third of the way across the bay an unusually heavy hail storm came on. I had been watching the graceful flight of the gulls; my attention was distracted by the storm for less than a minute and when I again looked for them, not one was in sight.

I gazed through the falling hail and observed that they were all at rest on the surface of the water and every gull that I could discern had its head under a wing as if in sleep. This reaction was most interesting to me, as it was undoubtedly an instinctive act to protect their heads, especially the eyes, from injury. I had never heard of or seen such a reaction in birds before and I do not know that such an observation has been recorded.—FRANK E. BLAISDELL, SR., *Stanford Medical School, San Francisco, California, March 25, 1930.*

A New Hummingbird Hybrid, Calypte anna × Stellula calliope.—Hybridization under natural conditions of life is a fact which has already been noticed as occurring between species in many families of birds and especially among Paradiseidae and Trochilidae, the brilliant and varied coloring of which permits of easily detecting the external evidences of hybridism in the individuals. I have also called attention ("L'Oiseau," 1929, p. 340) to the fact that such cases of hybridization in nature may only be presumed, as based on nothing else than specimens showing in their morphology exactly intermediate characters between two well-known different species, but that no critical experiment in confinement, especially for hummingbirds, is likely ever to prove these assertions.

Considering the so-called hybrid specimens in the Trochilidae, California is a country from which have already been listed four kinds of hybridization between species living in that part of North America (Thayer and Bangs, Auk, 1907, p. 313), namely:

Calypte anna × *Archilochus alexandri* (=*Trochilus violajugulum* Jeffries)
Calypte anna × *Selasphorus alleni* (=*Selasphorus floresii* Gould)
Calypte costae × *Archilochus alexandri*
Selasphorus rufus × *Stellula calliope*

Through the kindness of my colleague, Dr. J. Grinnell, I am able to describe here a fifth kind of California hybrid hummer, the example of which (no. 47983, Mus. Vert. Zool.) was shot by Mr. C. C. Lamb at Vallecitos, 7500 feet altitude, Sierra San Pedro Martir, Lower California, Mexico, June 19, 1926, and which exhibits all the external characters of an adult male hybrid of:

Calypte anna × *Stellula calliope*

Description.—Forehead covered with brilliant metallic rosy-lilac feathers similar to those of the head of *Calypte anna*, but covering not more than the fore part of the vertex and terminating in a most irregular border, unlike the large, regular cap of *Calypte*. The throat very brightly shining rosy-purple, rather similar to that of *Calypte*, but still deeper purplish with lilac reflections, and with the lateral feathers much narrower and elongated, recalling those of *Stellula calliope*. Hind part of the vertex and upper parts of the body uniform metallic green; underparts much lighter gray than in *Calypte*, nearly whitish on the lower throat and under tail-coverts, darker and largely mixed with metallic green on the flanks. Tail emarginate and only little shorter comparatively than in *Calypte*, but the median rectrices shaped as in *Stellula* and only faintly tinged with bronzy-green; all rectrices dark gray, the four median ones bordered on each side at the base with a narrow rufous streak, as in *Stellula*, the two outer rectrices shorter and narrower than those of the next pair and slightly incurved, like those of both *Calypte* and *Stellula*. Bill straight.

Length.—Culmen, 16 mm.; wing, 45; tail, 28.

This bird, apparently fully adult, as may be presumed from the extreme shining color of the throat, more brilliant even than in most specimens of *Calypte anna* examined, is exactly intermediate as to size between *Calypte anna* and *Stellula calliope*, two species greatly differing one from the other in this respect. The dominating characters seem, on first sight, to be those of *Calypte*, especially the brilliant lilac metallic fore head; but it differs from this species by the lesser extent of this color on the head, the lengthened lateral feathers of the throat, the much lighter color of the underparts, the shape and the color of the median rectrices—all characters which recall the same parts in *Stellula calliope*. As both species may occur together at breeding time in the mountains of California, the casual crossing between them is not improbable, although the great difference of size may render rather abnormal such an occurrence. In its morphological characters, the bird here described can be considered perhaps as a little closer to *Calypte* than to *Stellula*.—J. Berlioz, *Museum National d'Histoire Naturelle, Paris, March 25, 1930.*

Notes on the Avifauna of the Atlin Region, British Columbia.[1]—In the summer of 1929 I spent the period from June 17 to September 19 in and about the town of Atlin, collecting birds within a radius of thirty or forty miles. The observations herewith reported are supplementary or additional to the facts contained in my previously published report from the same region (Univ. Calif. Publ. Zool., vol. 30, 1926, pp. 51-162), which was based upon collections made by Major Allan Brooks and myself during the summer of 1924. My second visit was made on behalf of the California Academy of Sciences, and the catalogue numbers here cited pertain to the bird collection of the Academy.

Scotiaptex nebulosa nebulosa. An adult female (no. 13829) was shot on July 28 by Kenneth McCorkle, a member of our party, in some low hills about three miles northeast of Atlin. It was found in rather dense spruce woods, the owl's presence being revealed by a scolding red squirrel. That the squirrel had a right to feel perturbed was shown by the contents of the owl's stomach, an adult *Sciurus hudsonicus*, the animal's head bitten off, but swallowed otherwise entire. The owl was shot at 5 p. m., and as digestion had not begun upon the carcass the squirrel evidently had been killed and eaten in broad daylight, revealing diurnal activity on the part of this owl, which I had not suspected of it. The bird had apparently dismissed family cares for the year and was beginning the annual molt. New and old flight feathers appear in the wings. There are not many published records for this species in British Columbia, though it must occur over most of the province. Brooks and I did not find it about Atlin, but during the winter following our visit there, an acquaintance in the town shot one and had it mounted.

Picoides arcticus arcticus. Picoides tridactylus fasciatus. On our 1924 visit to Atlin we saw very few of *fasciatus* and none of *arcticus*. In 1929, while neither was common, both were seen at rather frequent intervals during the summer. Fire had swept through several miles of spruce and pine woods near Atlin subsequent to 1924, and the partly or entirely burned stands of timber were apparently the feature that attracted these woodpeckers. Young of *arcticus* were collected, recently from the nest. (For the use of the specific name *Picoides tridactylus*, see Bangs, Bull. Mus. Comp. Zool., vol. LXX, 1930, p. 235.)

Loxia curvirostra bendirei. In June, 1919, Mr. Joseph Dixon and I saw a few Red Crossbills near Telegraph Creek, on the upper Stikine River, and collected birds which were identified as *bendirei*. This was the northernmost point of record for the subspecies up to that time. I saw none around Atlin in 1924, but in June, 1929, I found this bird rather common thereabout and collected specimens (nos. 32340-46). The crossbills were in flocks, composed of adults in post-breeding condition about ready to begin the annual molt, accompanied by young birds in streaked juvenal plumage. Early in July the species disappeared from sight, to be seen again on but one occasion, a solitary bird, a young male, being shot on September 1. This last mentioned specimen is notable in that finishing the post-juvenal molt, it is passing from the juvenal plumage directly into the bright red of the fully mature male. It is not uncommon to find male Red Crossbills with a greater or less admixture of the female plumage, but evidently this is not a stage that is regularly passed through between the streaked and the red plumages.

The Red Crossbills that we saw near Telegraph Creek were in a grove of jack pine (*Pinus contorta*), and about Atlin, too, the species was confined to the neighborhood of this pine. The White-winged Crossbill (*Loxia leucoptera*), which is common in the region, was just as closely restricted to stands of white spruce (*Picea canadensis*).

Acanthis linaria linaria. This Redpoll will probably be found to breed as far south as Telegraph Creek, where I thought that I saw some in May, 1919, though unable to shoot any. None was seen about Atlin in 1924, but it was nesting, probably in fair abundance, in that region in 1929. A few appeared in the vicinity of the town about the middle of July, and many were seen some twenty miles to the eastward, at Blue Cañon, early in August. A young bird collected August 2 had evidently been out of the nest only a day or two, and other more fully grown juveniles were collected thereafter. Most of these birds were shot in dense birch

[1] Contribution from the Museum of the California Academy of Sciences.

brush on dry upland slopes, in company with *Spizella monticola ochracea* and *Spizella taverneri*, and were not recognized as Redpolls until in the hand. Seven specimens were taken (nos. 32350-56).

Melospiza melodia morphna. A song sparrow, presumably of this subspecies, was seen at Ben-my-Chree (the head of West Arm, Tagish Lake) on August 27, 1929, the first to be recorded from the Atlin region. The locality lies at the east base of the Coast Range, perhaps fifty miles inland from Skagway (within the normal coastal habitat of the bird), but with the intervening territory a mass of rugged and glacier-covered mountains unsuited to song sparrows.

Geothlypis trichas occidentalis. An immature male (no. 32507) shot near Atlin on September 4, 1929, is the only one that I have seen thereabout. On September 10, 1924, I saw the species at Fat Creek, some seventy miles northeast of Atlin, and in September, 1909, on the Taku River, about one hundred miles south of Atlin. These several occurrences mark the northwestern limits of the species, so far as known.

Hylocichla minima aliciae. An adult female (no. 32533) was shot at the base of Munro Mountain, about five miles northeast of Atlin, September 1, 1929. There are two other records of specimens taken in northern British Columbia, one in the Atlin region and one near Telegraph Creek (see Brooks and Swarth, A Distributional List of the Birds of British Columbia, 1925, p. 119).—HARRY S. SWARTH, *California Academy of Sciences, San Francisco, April 1, 1930.*

A Record of the Scarlet Tanager for California.—On October 30, 1929, while on San Nicolas Island with Mr. J. R. Pemberton, the senior author had the good fortune to find the dried remains of a tanager which later proved to belong to the species *Piranga erythromelas*. The specimen was sent to the Museum of Vertebrate Zoology in view of the better facilities for comparison there available.

The remains consist of one complete wing and foot, the tail, portions of the breast and flank feathers, the dorsal surface of the neck and a large part of the back and scapular tracts. The other wing is present but lacks the greater secondary coverts and several of the inner secondaries. The body is dried and the ribs and sternum somewhat crushed. The scapula, coracoid and limb bones are intact but have not been extracted from the remains. The feathers are unstained and in perfect condition for comparison in so far as they are present.

The specimen, now no. 54485, Mus. Vert. Zool., was picked up just back of the beach on the dry eastern slope of the island and was not covered by the wind-driven sand that drifts across the island during a large part of the year. We believe that the bird could not have been killed earlier than September, whereas it is probable that it had not been dead for more than two or three weeks at the time of discovery. No trace of any molt remains. San Nicolas, the most barren of the Santa Barbara Islands, lies fifty-three miles off the coast of southern California. People do not inhabit the island at the present time and it is extremely unusual for any one to visit its shores.

The plumage of the bird is that of a first fall male, the remiges being juvenal but the coverts black with yellowish green margins such as are grown in the fall molt of immature birds. The border of the wing is black, the under wing coverts are white and the dorsal wing coverts entirely without barring. A complete comparison with a first fall male *Piranga erythromelas*, no. ex. 161, collection of J. and J. W. Mailliard, from Wisconsin, taken September 29, 1895, has been made which demonstrates a complete correspondence between the remains of the San Nicolas bird and the Mailliard specimen. Several other Scarlet Tanagers in the collections of the California Academy of Sciences and the Museum of Vertebrate Zoology have provided close comparisons in so far as they were in comparable plumages. Measurements of the wing, tail, and foot of the San Nicolas bird fall within the limits of variability of the Scarlet Tanager.

To the authors' knowledge this species has not been recorded previously west of the Rocky Mountains. The Scarlet Tanager seems prone to wander outside of its normal range during the fall season, yet its appearance at such a distant point as the well isolated island of San Nicolas is remarkable.—LOYE MILLER and ALDEN H. MILLER, *University of California, April 23, 1930.*

EDITORIAL NOTES AND NEWS

In the Secretary's report of the 1930 Cooper Club annual meeting, he omitted to mention the exhibits of ornithological materials which were displayed in the Los Angeles Museum especially for Club members and visitors to see. These included a series of line and colored illustrations by John L. Ridgway, a series of special mounts of feathers by tracts, as used in molt studies, by J. Eugene Law, a large series of eggs of the California Murre exhibiting color variations, by George Willett, and a series of fossil bird bones from Conkling Cavern, New Mexico, illustrating the paper given by Mrs. Hildegarde Howard Wylde.—T.I.S.

The third 10-year index to the CONDOR is now in the hands of the printer. The manuscript for this, over 400 pages of it, has been prepared with painstaking care by George Willett, a contribution of service on his part which all serious workers in our field will gratefully acknowledge. We can point with some pride to the large store of creditable ornithology which has been given permanent record in the last ten volumes of our magazine. But a further duty is to make the detailed information contained in these volumes easily accessible to the serious student of the future. The performance of this duty will now soon be completed.

PUBLICATIONS REVIEWED

REALITIES OF BIRD LIFE. By EDMUND SELOUS. With an Introduction by Julian S. Huxley, M. A. London, Constable and Co. Limited, 1927. Demy-octavo (140 x 220 mm.), XVI + 342 pp.

It is so long since such a book has appeared that we of the present generation must cast about for adequate critical criteria. The book is intimate and dramatic. We feel the nipping and the eager air of the north before dawn, on the cliffs above some gray Hebridean flow, or on the windy flats of the Dutch coast. We watch, insatiably, equipped only with glasses and the genius to neglect nothing, to take nothing for granted, to comfortably pigeon-hole nothing in the easy repository of another man's doctrine.

There is no smell of powder, no hint of bird-skins, museum trays, or taxonomics,—nay, not even of scales, stopwatches, clinical thermometers, colored bands, or long-focus cameras. Yet the mass of solid material is so great as to inspire as finished a technician as Julian Huxley, who writes the introduction, both to quick enthusiasm and careful criticism.

The volume has unity rather as a study of the mind of a brilliant ornithologist than as an attack upon any given problem. Scattered, diary-like records of the behavior of birds, most frequently of the breeding behavior of the birds of the shore and the sea, are not planned for the convenience of the slit-eyed specialist. Having thrown the usual defensive sop to Cerberus in the form of disclaimers of "literary" intent ("for 'you cannot serve God and mammon,' or say here 'gammon' "), Selous proceeds to cram his three hundred pages almost as tightly with ironic wit, philosophic and aesthetic byplay, and an overload of polyglot literary echoes, as with solid ornithology.

To have obviously gone so far, both in field and study, yet to write a volume which does not contain one stale pseudoscientific "tag" is a mighty assertion of individuality. To have so exposed one's thoughts yet to remain a man without a doctrine indicates not so much the sceptic as the hardened cynic. If the British School, as shown by men like Howard, Nicholson, Selous and Huxley, are leading the world in the re-discovery of field ornithology, they are not doing so as a conscious unit. Selous, for instance, has no love for "territorialism". "The fact is, a bird cannot possibly be nowhere, and so is forced into having a territory." " . . . It might fly into a certain wood, field, island, etc., with a distinct idea of appropriating it, *first* [i. e., before localized sex and food associations were formed], which, for my part, I doubt if it ever does."

Perhaps if one aspect of bird life has stronger fascination for Selous it is what he has once called "psychology in transition",—the transitory confusion of behavior which passes from its origin into a complexity of new adaptations and collateral values, as the singing exhibitions of the oyster-catchers, which seem, from a functional, sexual, origin, to have become an end in themselves.

If the volume deals largely with instinct, it is hardly mechanized, and never freed from a haunting suggestion of something higher. A pervading ironic sense of a sort of reversed anthropomorphism

is often illuminating and never harmful. For instance, of the fighting of mated avocets,—"Strange *matrimonia jurga* these! They should be bitterly denied, because so human, by those 'on the side of the angels'."

The splendid book-making of Constable's and the high literary standard are rarely marred. All the more shocking is such a break as "jesture" on page 29.—T. T. McCABE, *Berkeley, April 29, 1930.*

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

MARCH.—The March meeting of the Northern Division of the Cooper Ornithological Club was held on Thursday evening, March 27, 1930, at 8:00 p. m., in Room 2003, Life Sciences Building, University of California, with about seventy-five members and guests present and President Storer in the chair. Minutes of the February meetings of both divisions were read. William Schwarting, 681 Spruce Street, Oakland, California, was proposed for membership in the Club by Brighton C. Cain.

Dr. Storer welcomed members to the new meeting place in the Life Sciences Building and recalled that the first meeting of the Northern Division to be held on the University Campus was in July, 1909, in the Museum of Vertebrate Zoology.

Mr. Swarth announced that he had received a letter from Mr. W. Otto Emerson of Hayward suggesting that the 100th anniversary of the birth, June 19, 1830, of J. G. Cooper might be observed appropriately by placing in the Hayward Public Library, erected on the site of Dr. Cooper's old home, a tablet to his memory. Dr. Theodore S. Palmer had also written him, he said, urging that this be done. Dr. Evermann commented favorably upon the plan and said that in company with Mr. Mailliard and Mr. Swarth he had visited the library and found the trustees agreeable to such a course. Dr. Bryant moved that the Chair appoint a committee of arrangements. The motion was duly seconded and unanimously carried. Dr. Storer announced the appointment of Mr. Emerson, Dr. Bryant and Miss Pringle.

Attention of members was called to the bulletin by Davis Quinn entitled "Framing the Birds of Prey". Mr. Grinnell stated that he had several copies of this forceful and largely truthful arraignment and would be glad to give them to interested members who might wish to aid in giving publicity to its contents.

The acorn-storing propensities of the California Woodpecker were discussed by Dr. Ritter, Dr. Storer and Mr. Mailliard. The last-named told of seeing a building at Rancho Chowchilla where great quantities of acorns had been stored, and where bees, taking advantage of the holes made by the birds, had stored honey in like proportions. Dr. Storer told of a similar occurrence at the little Catholic Church near Jackson and Dr. Ritter spoke of the activities of the birds at the Mount Diablo Country Club.

The recent slow but steady increase of American Egrets in the State was commented on by Dr. Cook, Dr. Storer and Mr. Streator. Leslie Hawkins reported the arrival of several birds, including two Dowitchers seen near the Key Route mole on March 23. Mr. Cain noted Cliff Swallows in Oakland on March 26. Miss Rinehart saw hundreds of Band-tailed Pigeons on the shoulder of Mt. Hamilton on the 23rd, and Dr. Bryant reported these birds to be damaging the vineyards of the Earl Fruit Company near Bakersfield, by breaking off sprouts when alighting on the vines in search of raisins.

The evening's talk was by Mr. Stanley E. Piper, Associate Biologist, U. S. Bureau of Biological Survey, who spoke upon "The Problem of Damage to Agriculture in California by Birds". Mr. Piper dealt in a thorough way with this serious problem and showed many slides illustrating the damage done to lima bean plants by horned larks along the coast and to pear and almond blossoms in the interior by sparrows and finches. The damage done to ripening fruits in California, Mr. Piper pointed out, is much greater than in the eastern states where birds do not find it necessary to puncture fruits to slake thirst, as in our arid climate.

Adjourned.—HILDA W. GRINNELL, Secretary.

SOUTHERN DIVISION

MARCH.—The March meeting of the Southern Division of the Cooper Ornithological Club was held on Tuesday evening, March 25, 1930, at the Los Angeles Museum, Exposition Park, Los Angeles, with about twenty-five members and friends present and President Willett in the chair.

The minutes of the Southern Division February meeting were read and approved. The minutes of the February meeting of the Northern Division were read.

The following applications for membership were read: Leroy S. Nelson, 1825 14th Ave., Greeley, Colo., proposed by John McB. Robertson; Paul A. Stewart, Leetonia, Ohio, proposed by Harold Michener; Joseph F. Frazier, 724 Proctor Place, Independence, Mo., proposed by W. Lee Chambers; J. L. Partin, 3324 Drew St., Los Angeles, Calif., proposed by J. Eugene Law; Fred S. Lodge, 423 S. Stone Ave., La Grange, Ill., proposed by A. M. Bailey; Lana Louise Bates, P. O. Box 234, Los Banos, Calif., proposed by J. Grinnell.

Dr. Miller spoke of the coming Annual Meeting and urged everyone to send in the return postal cards, sent out with the notices of the meeting, signifying their intention to attend the meeting and giving the title of a paper to be presented there.

Mr. Wayland Avery was the speaker of the evening. He told of Mr. Montgomery's many years' study of bird flight, the theories which have been formulated from those studies, and the application of those theories, to the airplane, which is being made by the Vortex Wing Company. Following these principles a model airplane has been made which will advance rapidly into a thirty mile per hour wind without any power other than the wind against which it moves. For airplanes made after this model Mr. Avery predicts quicker take off, higher speed, greater safety, less required power, and slower landing speed than with the present types. A general discussion followed Mr. Avery's talk.

Adjourned.—HAROLD MICHENER, *Secretary.*

APRIL.—The April meeting of the Southern Division of the Cooper Ornithological Club was held on Tuesday evening, April 29, 1930, at the Los Angeles Museum, Exposition Park, Los Angeles, with about twenty-five members and friends present and President Willett in the chair. The minutes of the March meeting of the Southern Division were read and approved. The minutes of the March meeting of the Northern Division were read by title only.

The following applications for membership were read: Geo. Hunter, Salinas, Calif., and Fred Post, Salinas, Calif., both proposed by O. P. Silliman; Eleanor Catherine Layman, 4363 Trias St., San Diego, Calif., proposed by Frank F. Gander; and Gene M. Simpson, 744 N. 11th St., Corvallis, Oregon, proposed by W. Lee Chambers.

President Willett reported the death of Russell Hubricht by drowning in the Salinas River while on a camping trip. The information was obtained from a newspaper report dated April 17. Mr. Hubricht was a keen student of birds and had been a faithful member of the Club for several years. The members present expressed great regret at this untimely loss.

Dr. Miller started the round-table report of recent experiences by telling of a trip to the Channel Islands off the coast of southern California and another into the lower Colorado River basin near Pot Holes. In the latter place he saw the nests of Harris Hawk and Vermilion Flycatcher. He told of his observations about these nests.

Dr. Watson asked if the Vermilion Flycatcher had ever been known to nest in the lowlands of Los Angeles and Orange counties and received the answer that it is known in this vicinity only as a winter visitant. Other rare visitants were mentioned; and in this connection the members present expressed strongly the feeling that these rare visitants should not be collected as specimens except where absolutely necessary for identification.

Mr. Pierce told of visiting, with Mr. Calder, a Prairie Falcon's nest and making observations on the food habits of these birds. Mr. Willett told of a recent trip to Mt. Pinos where he saw the Sooty Grouse, Evening Grosbeak and other interesting birds. Many members spoke of the increase in the numbers of the American Egret.

Attention was called to the action of the Northern Division in appointing a committee to make arrangements for the placing of a tablet in memory of J. G. Cooper, on the 100th anniversary of his birth, June 19, 1830, in the Hayward Public library which occupies the site of Dr. Cooper's old home. Dr. Miller made a motion, which was seconded and carried, that President Willett be appointed a committee-man to act by correspondence with the committee on arrangements from the Northern Division.

Adjourned.—HAROLD MICHENER, *Secretary.*